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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/877,644	06/08/2001	Stephen J. Botos	5-002007	9319

7590 09/16/2002

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EXAMINER
MOHANDESI, IRAJ A

ART UNIT	PAPER NUMBER
2834	

DATE MAILED: 09/16/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/877,644	BOTOS ET AL.	
	Examiner	Art Unit	
	Iraj A Mohandesi	2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 June 2001* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) ~~1200~~ 1-20 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1/20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *08 June 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on 08/23/2001 was filed after the mailing date of the 08/16/2001 on 08/20/2001. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Drawings

2. This application has been filed with informal drawings, which are acceptable for examination purposes only. Formal drawings have been submitted on 09/13/2001.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. **Claims 1-20** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Phillips (US patent 4,767,954)** in view of **Fujita (US patent 4,962,329).**

Phillips discloses a linear motor (Fig. 1) with multiphase armature comprising a magnet track (12,14, Fig.1 column 5,line 27-29), a magnet assembly coupled to the magnet track, (12,14 , 16,18 Fig. 1), the magnet assembly having plurality of side-by-side alternating magnetic north poles and magnetic south poles (Fig.1. column 5,line 36-38). the plurality of side-by-side electrically conductive coils includes an integer multiple of N coils, with every Nth coil (Fig. 1).

However **Phillips** does not teach an armature having a plurality of side-by-side electrically conductive coils formed on an electrically and magnetically nonconductive substrate which is movably coupled to the magnet truck such that the side by side conductive coils are positioned and movable in spaced parallel relation to the side-by-side alternating magnetic poles, the substrate including plurality of electrically nonconductive layers laminated together, each layer having, a plurality of electrically conductive windings formed thereon in side-by-side relation on at least one surface thereof with adjacent conductive windings of each layer electrically isolated from each other on the layer, each electrically conductive winding of each layer positioned in registration and electrically connected with a corresponding electrically conductive winding on each other layer to form one of the electrically conductive coils.

Fujita discloses an armature having a plurality of side-by-side electrically conductive coils (Fig.3) formed on an electrically and magnetically nonconductive substrate (column 4,line 23), which is mo the side by side conductive coils are positioned and movable in spaced parallel relation to the side-by-side alternating magnetic poles, the substrate including plurality of electrically nonconductive layers laminated together (Fig.1 column 4, line 30), each layer having, a plurality of electrically conductive windings formed thereon in side-by-side relation on at least one surface (Fig. 3)thereof with adjacent conductive windings of each layer electrically isolated from each other on the layer, each electrically conductive winding of each layer positioned in registration and electrically connected with a corresponding electrically conductive winding on each other layer to form one of the electrically conductive coils.(Fig. 1,2,3 column 4,line 10-

64), each coil, the electrically conductive windings on adjacent layers are configured so that magnetic fields produced thereby in response to an electric current frowning through each electrically conductive winding are additive.(Column 4 Line 20-24)the electrically conductive windings of adjacent layers forming one of the electrically conductive coils are electrically connected in series (Fig. 3.),the electrical current flows inherently around the central axis of one of the electrically conductive windings of adjacent layers (Fig. 3),each layer includes a plurality of heat transfer vias there through; and the plurality heat transfer vias (10 ,Fig.1 the holes inside the windings), the windings of each coil positioned in registration are electrically connected via a conductor received in at least one hole and/or via formed in each layer.(column 4,line 24-36),each layer is rigid or flexible(column 3)wherein the electrically conductive windings in registration on adjacent layers have a common central axis (Fig.3),wherein adjacent windings of each coil have opposite winding directions (Fig.3)for the purpose of reducing the size of assembly of the linear motor.

Therefore it would have been obvious to combine the magnet track of **Phillips** linear motor with an armature having a plurality of side-by-side electrically conductive coils formed on an electrically and magnetically nonconductive substrate as taught by **Fujita** for the purpose of reducing the electronic part of the linear motor to meet the growing need.

Communication

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Iraj A Mohandesi whose telephone number is (703)305-3242. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on 703-308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703)872-9314 for regular communications and (703)872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)306-0377.

IM
September 10, 2002

NESTOR RAMIREZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800